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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/912,721	07/24/2001	Song Chen	I4303.0116	5513

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EXAMINER
LEE, JOHN J

ART UNIT	PAPER NUMBER
2618	

MAIL DATE	DELIVERY MODE
12/23/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	09/912,721	CHEN ET AL.
	Examiner	Art Unit	
	JOHN J. LEE	2618	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
   Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>19 September 2008</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-47</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) <u>23</u> is/are allowed.

6)☒ Claim(s) <u>1,13-16,19,20,24,27,31 and 42-45</u> is/are rejected.

7)☒ Claim(s) <u>2-12,17,18,21,22,25,26,28-30, 32-41,46 and 47</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments with respect to claims 1, 13-16, 19, 20, 24, 27, 31, and 42-

45 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
such that the subject matter as a whole would have been obvious at the time the invention was made to a person
having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
manner in which the invention was made.

3.   **Claims 1, 13-16, 19, 20, 24, 27, 31, and 42-45** are rejected under 35 U.S.C.

103(a) as being unpatentable over Catthoor et al. (US 6,223,274) in view of Brooks et al.

(US Patent number 5,842,014).

        Regarding **claims 1 and 31**, Catthoor discloses that a communication system for

hosting a plurality of processes (21, 22), each process in said plurality of processes

(plurality of processes operating for communication protocol) executed in accordance

with a communication protocol, the communication protocol including a set of functions

(Fig. 1, 6 and column 10, lines 35 – column 12, lines 21). Catthoor teaches that a plurality

of application specific instruction (a plurality of application specific instruction circuit)

set processors (ASISPs) (processors in Fig. 6 and column 17, lines 20 - 29), each ASISP

(21, 22) capable of executing a subset of said set of functions included in said

communication protocol (Fig. 1, 6 and column 10, lines 35 – column 12, lines 21, where

teaches the plurality of application specific instruction circuit set processors operate to

individually monitor by IPs with the communication protocol). Catthoor teaches that a

scheduler (column 18, lines 6 - 17) connected to said plurality of ASISPs (coupled to the

ASIS processors) for scheduling said plurality of ASISPs in accordance with a slicing

algorithm (Fig. 16 and column 25, lines 5 – 30, where teaches slicing for scheduling

plurality of ASIPs) so that each process in said plurality of processes is supported by said

communication system (Fig. 1, 6 and column 10, lines 35 – column 12, lines 21, where

teaches the scheduler coordinates for scheduling a plurality of ASISPs with a slicing of

ASIPs and supporting communication protocol).

However, Catthoor does not specifically disclose the limitation "time-slicing

algorithm so that each process in said plurality of processes is supported by said

communication system". However, Brooks teaches the limitation "time-slicing algorithm

so that each process in said plurality of processes is supported by said communication

system" (Fig. 2, 3 and column 5, lines 52 – column 6, lines 64, where teaches

implementing by TDM bus architecture, connections of various DSPs to the TDM bus

(ex..256-time slot protocol) are performed by a Digidesign-developed ASICs). It would

have been obvious to one having ordinary skill in the art at the time the invention was

made to modify the Catthoor system as taught by Brooks, provide the motivation to

achieve efficiently distributing processing tasks among a plurality of digital signal

processors with setting of processing algorithms in a distributed processing system.

Regarding **claims 13, 14, 42, and 43**, Catthoor and Brooks teach all the

limitation, as discussed in claim 1. Furthermore, Catthoor further teaches that

communication protocol is selected from the group consisting of IS-95 CDMA, IS-95B

CDMA, CDMA TIA IS2000, TIA IS 2000A, wideband CDMA (WCDMA), cdma2000, and ARIB WCDMA (column 7, lines 3 - column 8, lines 4 and Fig. 1, 6, where teaches matching the communications protocol).

Regarding **claims 15 and 16**, Catthoor and Brooks teach all the limitation, as discussed in claims 1 and 13. Furthermore, Catthoor further teaches that the communication protocol is a time division multiple access protocol (column 7, lines 3 - column 8, lines 4 and Fig. 1, 6, where teaches matching the communications protocol).

Regarding **claims 19 and 44**, Catthoor and Brooks teach all the limitation, as discussed in claims 1 and 13. Furthermore, Catthoor further teaches that each process in said plurality of processes is an echo (Fig. 1, 6 and column 10, lines 35 – column 12, lines 21).

Regarding **claims 20 and 45**, Catthoor and Brooks teach all the limitation, as discussed in claims 1 and 19.

Regarding **claim 24**, Catthoor and Brooks teach all the limitation, as discussed in claim 1.

Regarding **claim 27**, Catthoor and Brooks teach all the limitation, as discussed in claim 1.

Allowable Subject Matter

4.   Claims 23 is allowed.

Claim 23 is allowable over the prior art of record because a search does not detect the combined claimed elements as set forth in the claim 23.

As recited in independent claim 23, none of the prior art of record teaches or fairly suggests that distributing a plurality of application specific instruction set processors (ASISPs), each ASISP capable of executing a subset of a set of functions in accordance with the communication protocol, and centralized controller schedules the functions calculated by each the ASISP in said plurality of ASISPs in master/slave relationship, thereby reducing the amount of inter-process overhead between said computing components in said device, and together with combination of other element as set forth in the claim 23. Therefore, claim 23 is allowable over the prior art of records.

5.   Claims 2-12, 17, 18, 21, 22, 25, 26, 28-30, 32-41, 46 and 47 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record fails to disclose the limitation "an input register for receiving an input program and state associated with a process in said plurality of processes, each instruction in said input program being part of a limited purpose instruction set that supports said subset of functions included in said communication protocol, an output register for storing a value that indicates a state of said process after execution of said input program, and the input program is associated with a first process selected from said plurality of processes, and the time-slicing algorithm includes a step of allocating a selected ASISP in said plurality of ASISPs to said input program for a predetermined period of time" as specified in the claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

Burger et al. (US 6,161,170) discloses Multiple Processing, Distributed Memory

Computer with Out-of-Order Processing.

Information regarding...Patent Application Information Retrieval (PAIR) system...

at 866-217-9197 (toll-free)."

Any response to this action should be mailed to:

> Commissioner of Patents and Trademarks
> Washington, D.C. 20231
> Or P.O. Box 1450
> Alexandria VA 22313

or faxed (571) 273-8300, (for formal communications intended for entry)

Or: (703) 308-6606 (for informal or draft communications, please label

"PROPOSED" or "DRAFT").

Hand-delivered responses should be brought to USPTO Headquarters,

Alexandria, VA.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to **John J. Lee** whose telephone number is **(571) 272-7880**.

He can normally be reached Monday-Thursday and alternate Fridays from 8:30am-5:00

pm. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, **Nay**

Maung, can be reached on **(571) 272-7882**. Any inquiry of a general nature or relating to

the status of this application should be directed to the Group receptionist whose telephone

number is (703) 305-4700.

J.L
December 22, 2008

John J Lee

/JOHN J LEE/
Primary Examiner, Art Unit 2618